

Interactive comment on “Tephrostratigraphy and tephrochronology of lakes Ohrid and Prespa, Balkans” by R. Sulpizio et al.

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This short paper brings together some new work (on Cores Co1200, 1201, 1205 reported here for the first time) with other recently published data (from cores Lz1120, Co1202) on the correlation of tephra layers from a number of lake cores in the Balkans. Altogether, 12 discrete tephra units are now recognized, correlated with known tephra from the past 131 kyr from volcanoes in the central Mediterranean region. This is a valuable contribution to the field, which introduces to the community the existence of a number of long lake cores which have the potential to record environmental changes through the late Pleistocene and into the Holocene, with the framework of a sound tephra-stratigraphy to help with the development of down-core age models. This is a good paper, which needs little modification.

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One aspect requires a little more explanation in the paper. In core 1202, how do you interpret the age model for this core? The top 9 metres include tephra to ca. 50 kyr; and the next 6 m extend back to ca. 131 kyr. Is there a hiatus in the core? Is the age model consistent with any environmental or other stratigraphic evidence from the same core? Is there any way to verify that correlations with X5, X6 and P11 (ca. 100 – 130 kyr) are correct: is it clear that there aren't similar tephra in the age range 50 – 100 kyr?

Technical points (minor) Abstract line 1 'were examined for..' Line 4/5 'provide a new tephrostratigraphic..' Line 7 delete 'Ancient Age', unless this a widely understood (rather than local/regional) stratigraphic term Line 9 – it is inferred to be from Pantelleria; is any unit of this age exposed on Pantelleria, or is the inference simply from the composition? Line 18 'link from the..' P3933 Line 9 'Greek' (not plural) P3935 line 20 'From horizons which were distinctive because of their..' P3935 line 10 – clarify here those cores which have already been described P3935 Line 22 – 40 micron, presumably? (not mm) P3936, Line 27 'described here' P3937 Line 26 – you should define what you mean by alkali ratio in the text P3942 line 2 – 'striking' do you mean 'closely similar?' P3942 Line 5 – 'barely' in place of 'hardly' P3952 line 18 'unique' may be a bit strong. . . 'distinctive' is better? P3944 line 11 – I'd use 'as yet' rather than 'to date' P3946 line 19 'predates' rather than anticipates?

Table 2 – it would be useful to have the full analytical dataset (not just the averages) available as a supplementary table Fig 4 – scale bars are quite hard to see Fig 5 – the upper figure is a general incompatible trace element (not just REE) plot. Fig 8 – I can see what you are trying to do here, but it doesn't work very well. Either redraw, as a '3D' figure, or omit?

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